

CLAIMS

What is claimed is:

- 1 1. A mode scrambler, comprising:
2 an optical fiber adapter having a gap, a first end, and a second end,
3 wherein a single mode optical fiber is coupled to the first end and a multimode optical
4 fiber is coupled to the second end; and
5 a diffuser disposed in the gap.
- 1 2. The mode scrambler of claim 1 wherein the diffuser comprises a piece of
2 Scotch[®] tape.
- 1 3. The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of
2 glass.
- 1 4. The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of
2 plastic.
- 1 5. The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of
2 acetate.
- 1 6 The mode scrambler of claim 1 wherein the diffuser comprises a thin piece of
2 acrylic.
- 1 7 The mode scrambler of claim 1 wherein the diffuser comprises particulate
2 suspended in a material having a uniform index of refraction.
- 1 8. The mode scrambler of claim 1 wherein the diffuser comprises air.

- 1 9. A method to scramble an optical signal, comprising:
2 disposing a diffuser between mating ends of an optical fiber adapter
3 having a single mode end and a multimode end;
4 launching a single mode signal in the single mode end; and
5 receiving a multimode optical signal in the multimode end.
- 1 10. The method of claim 9, further comprising disposing a piece of Scotch[®] tape
2 between the mating ends of the optical fiber adapter.
- 1 11. The method of claim 9, further comprising disposing a thin piece of glass
2 between mating ends of the optical fiber adapter.
- 1 12. The method of claim 9, further comprising disposing a thin piece of plastic
2 between mating ends of the optical fiber adapter.
- 1 13. The method of claim 9, further comprising disposing a thin piece of acetate
2 between mating ends of the optical fiber adapter.
- 1 14. The method of claim 9, further comprising disposing a thin piece of acrylic
2 between mating ends of the optical fiber adapter.
- 1 15. The method of claim 9, further comprising disposing particulate suspended in a
2 material having a uniform index of refraction between mating ends of the optical fiber
3 adapter.
- 1 16. The method of claim 9, further comprising disposing air in the gap.